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What, then, is Renouvier's own positive notion of God? That of a personal being who lives in time, whose knowledge, like our own, is relative, and to whom the world, the creation of his own will, is an object of external representation and experience. He complains of Kant for not having so much as considered this possible hypothesis. Truly, this is not the God of the metaphysician; is it even the God of any highly developed religion?

The *Année philosophique* fulfills a double function: it publishes annually an article by each of its three contributors, MM. Renouvier, Dauriac, and Pillon, and presents a bibliographical review of philosophical books published in French during the year. In the present number, M. Dauriac, in an essay on 'The Philosophy of M. Paul Janet,' sets forth the points of friendly and of unfriendly contact between the form of spiritualism represented by Janet and the neo-criticism represented by the *Année*. M. Pillon continues his treatise, begun in 1893, on "The Evolution of Idealism in the Eighteenth Century." The book-reviews are generally brief, and devoted more to exposition than to criticism. Articles in philosophical and psychological magazines are not noticed, though space is found for reviewing many distinctly theological works. Why a book on the descent of Christ into Hades should be reviewed in a philosophical annual, would probably puzzle either an American, an English, or a German editor to say.

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Essai sur la classification des sciences. Par EDMOND GOBLOT, Professeur agrégé de philosophie au lycée de Toulouse. Paris, Félix Alcan, 1898.—pp. 296.

While the chief aim of this volume is that indicated by the title given above, the first, and perhaps for the philosophical student most interesting, part of the discussion, deals with another subject which, in the author's treatment, comes into close relation with the other, viz., the general procedure in the advance of scientific knowledge. According to M. Goblot, philosophy is disappearing in the gradual progress of each science; so far as its doctrines are rational and intelligible, it becomes science. The supervising and unifying work allowed to philosophy by Comte is unnecessary; the coördination of the highest scientific truths is an already accomplished fact, for the truths are in themselves mutually harmonious. If any question be asked, it either belongs to some one of these sciences, or is meaningless. We are left,

then, with a classification instead of a philosophy which shall give us a hierarchy of sciences.

The first part, which bears the title *L'unité formelle de la science*, maintains the thesis that, while all the sciences, from mathematics onwards, have elements of induction and deduction present in varying degree in their procedure, the true scientific method is that of deduction and rational demonstration. Science becomes more perfect as it becomes more deductive; this is the end at which all the sciences are really aiming, though the natural sciences have not yet by any means fully realized it. The logical dualism of induction and deduction is the subject taken up in the first chapter. Mathematics serves as the type of a true science; it is ideal, independent of fact and existence, and deals with the *a priori* necessary conditions of the possible or the conceivable. The other sciences appear to be experimental, to depend on fact and existence, but a true view of their nature should lead us to bring them up to the level of mathematical rationality. In the second chapter, the fact is emphasized that, though fundamentally mathematical investigation implies insight into the necessary relations of number and space, yet in the beginning and in much of its subsequent history it has employed the inductive method. The transformation from the inductive to the deductive form, as is pointed out in the next chapter, has yet to take place in the natural sciences; but here too, there is a constant advance from the discovery of constant relations among facts to a perception that the relations are necessary consequences or deductions from certain fundamental universal principles. These principles may be empirical and irreducible, but when once they are accepted the particular facts become deductively necessary. Even in mathematics we have to start with undemonstrated postulates. The Euclidean postulate is not demonstrated. It is a hypothesis confirmed by experience, just like other hypotheses in experimental science. In the last chapter, on "Demonstration," it is pointed out that the syllogistic deduction from the universal does not explain the mathematical procedure, which normally proceeds from the more special case or relation to a wider general truth. And in mathematical reasoning there is, further, an element which escapes syllogistic analysis, viz., the recognition of the necessity of certain relations expressed in "judgments which are neither statements of fact, for they are general and necessary, nor axioms, for they relate precisely to the special case considered, nor conclusions of syllogisms." The essence of this demonstrative insight is perception of the necessary relations of the properties belonging to a concept.

The discussion is acute and interesting, and the distinctions and conclusions which are drawn are, to a great degree, just as valuable. But M. Goblot has not, it would seem, carried his analysis deeply enough on some points. We have seen above what character he gives to mathematics. I do not see how an ideal science, dealing with the conceivable and disregarding the real, is to be created. "Abstract definition and deductive demonstration"—if this be accepted as an adequate statement of the method—do not make the science ideal. Mathematics accepts certain elements given in experience, and develops these as far as possible, but that leaves their reality untouched, *i. e.*, their character as elements which are suggested by experience and are constituents in experience. And, if other sciences become deductive, they will in their turn show only how each constituent of reality has its own specific inner wealth of relation. When we ask what that intelligibility is, which sciences are to gain when made deductive, we have, apart from phrases, such as necessary relation, logical and demonstrative reason, the statement, given in a section where abstract causality is being discussed, that the sole principle of intelligibility is that of contradiction. It seems that there is a decided gap in the treatment here. The principle of contradiction does not lead to truth, it can only reject error. Even if we add the principle of identity, it does not become evident how we are to secure intelligibility in science. For the result of this mode of regarding it would be to make every ultimate assertion of a synthetic connection between diverse facts and elements unintelligible and unreasonable. M. Goblot refers only in one passage to this principle of intelligibility; the lack of deeper analysis becomes specially evident when we are told of the kind of demonstration used in mathematics, different from that of syllogism, which depends on perception of necessary relations.

The most prominent question in the twelve chapters of the second part is that of the theoretical distinctions among the sciences; the author seeks in a clear and forcible manner to show the fundamental unities and differences among the sciences, irrespective of practical and other considerations. The detailed statement as to the nature of the concepts employed in the various sciences can be adequately judged only by those who are experts in the sciences. Geometry is distinct from the science of quantity in virtue of its fundamentally distinct and specific concept. In mechanics, again, the introduction of a new conception gives us a new science: formerly mechanics was treated as an experimental science, now it has become deductive. The cosmological sciences, physics and chemistry, are still experimental, but the

increasing generality of their ultimate laws shows their true nature and end. Biology, psychology, and sociology form really one science, for in all these is implied the same fundamental assumption of an element which cannot be reduced to mechanism, but which is vital or psychical ; its essence is adaptation. If biology is not to appear as a mere branch of physics and chemistry, it must become psychological, and admit the presence in all organic life of sensation conscious or non-conscious. Sociological facts are present wherever we have individuals acting on each other. Among the parts of sociology come, in virtue of the importance for them of the social relation, religion, ethics, logic, and aesthetics.

Two points may be referred to in the way of criticism. The author, in emphasizing the importance of the social consciousness, seems, like others, to fall into the error of neglecting the fact that in each case, in religion, ethics, etc., the social consciousness has a definite idea or content, which is, after all, the real meaning and differentia of the department of knowledge in question. In regard to the meaning of the fundamental concept of life, M. Goblot rejects the theories of vitalism, of mechanism, and of parallelism, and retains the concept of adaptation to an end or the good of the organism. The analysis here appears to be inadequate. He does not give sufficient consideration to the explanation of life by the principles of variation and selection. Surely his question, How do variations appear? is unnecessary ; it is the existence of favorable variations which requires explanation, and of that the principle of natural selection is designed to give an account. Again, apart from the question, How far non-conscious sensation is conceivable? I do not find that he shows with sufficient clearness his grounds for identifying the vital principle of adaptation with the psychological principle of sensibility.

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An Introductory Logic. By JAMES EDWIN CREIGHTON, Sage Professor of Logic and Metaphysics in Cornell University. New York, The Macmillan Company ; London, Macmillan & Co., Ltd., 1898.—pp. xiv, 392.

A good elementary text-book in logic has long been a great desideratum. We have plenty of books that give a fair enough account of logical manipulations, and a few books that give an excellent treatment of the theory of logic. But books of the former class are generally too mechanical, those of the latter class too abstruse for profitable use in an introductory course. A careful examination of